

IT4PQ Project - Stakeholder workshop
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CESI Group



1930
KEMA USA, Chalfont, PA
Incorporated as ITE High Power Short Circuit Laboratory in Philadelphia

1927
Founded by Dutch power companies



1953
Founded as part of Research Institute of Czech Technical University of Prague

CESI

Today



1951
Started as a safety testing facility for hydroelectric dams and quickly developed in other important sectors in Italy



1956
Founded as national German High-Power test lab



2003
Funded in Knoxville, TN to improve operation of power grids through advanced technology



2019
Incorporated in Dammam, Saudi Arabia as a Joint Venture Company between CESI and GCC ETL

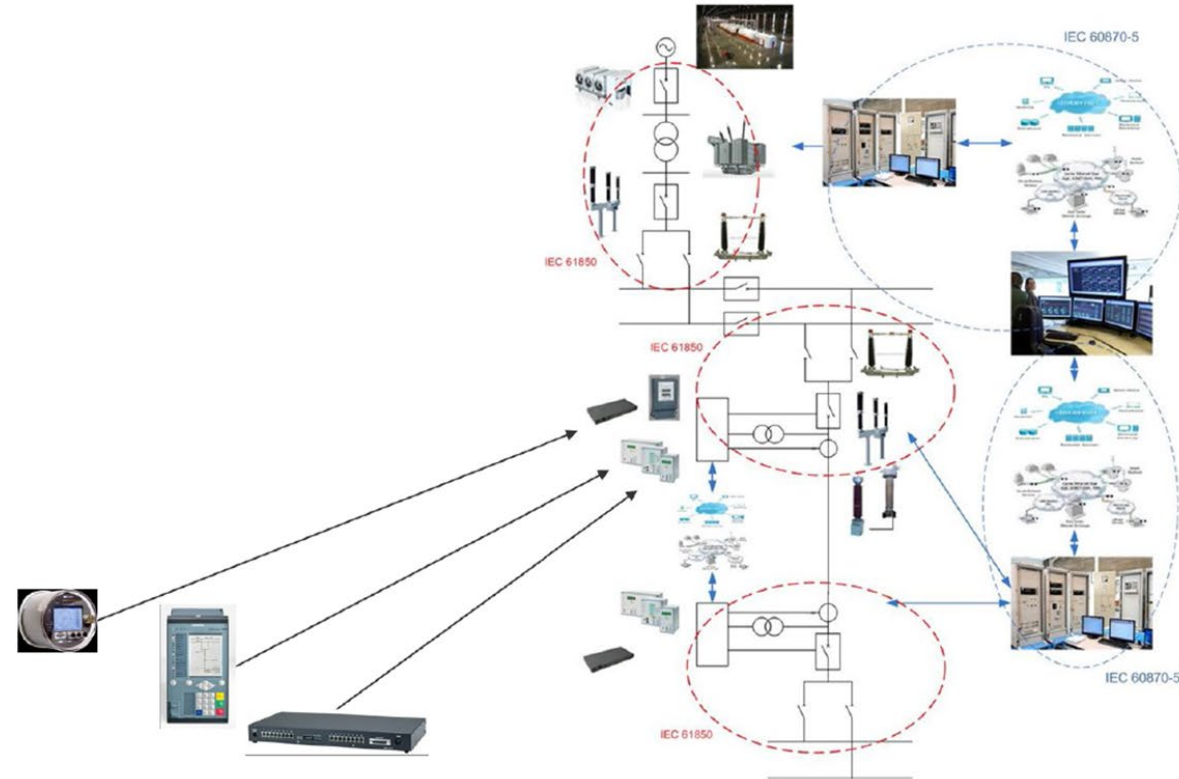


1921
Founded as Study Society for High Voltage Systems (StH) in Germany

Testing, Inspection and Certification

The global leader in independent testing, inspection and certification for the electricity sector

- **High Power & High Voltage testing**
 - Switchgear, reclosers
 - Power transformers
 - Cables
 - Instrument transformers
 - ...
- **Smart device testing**
 - Energy meters
 - Protection relays
 - SAMU's, EPU's
 - ...



Current activities

Type Testing of “conventional” instrument transformers

- IEC 61869-1, -2, -3, -4, -5

- Temperature rise
- Impulse voltage
- Power-frequency voltage
- Test for accuracy
- Degree of protection of enclosure
- Partial discharge measurements

- Verification of markings
- Chopped and multi chopped impulse voltage
- Measurement of capacitance and dielectric dissipation factor
- Transmitted overvoltage
- Mechanical tests

Future activities

Type Testing of “new technology” instrument transformers

- IEC 61869-6, (-7), (-8), -9, -10, -11, -13

- Temperature rise
- Impulse voltage
- Power-frequency voltage
- **Test for accuracy**
- Degree of protection of enclosure
- Partial discharge measurements
- **Electromagnetic compatibility**

- Verification of markings
- Chopped and multi chopped impulse voltage
- Measurement of capacitance and dielectric dissipation factor
- **Transmitted overvoltage**
- **Mechanical tests**
- **Climatic tests**

Future activities

- Development of new tests
 - Change of measuring/testing methods of existing tests (IEC 61869-1, -2, -3, -4, -5)
 - Frequency response and accuracy (IEC 61869-6)
 - Transient performance (IEC 61869-6)
 - Power quality measurements (IEC TR 61869-103)

Interest, needs, expectations IT4PQ project

- Generation PQ signals for testing/measuring IT's
- Reference VT and CT for PQ signals
- Measurement system for PQ signals
- Traceability



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